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<p>(21) International Application Number: PCT/EP99/10297</p> <p>(22) International Filing Date: 21 December 1999 (21.12.99)</p> <p>(30) Priority Data: 9828217.1 21 December 1998 (21.12.98) GB</p> <p>(71) Applicant (for all designated States except US): UNIVERSITE LIBRE DE BRUXELLES [BE/BE]; Faculté des Sciences, Avenue F. Roosevelt, 50, B-1050 Bruxelles (BE).</p> <p>(72) Inventors; and (75) Inventors/Applicants (for US only): BOLLEN, Alex [BE/BE]; Université Libre de Bruxelles, Faculté des Sciences, Avenue F. Roosevelt, 50, B-1050 Bruxelles (BE). FAUCONNIER, Alain [BE/BE]; Université Libre de Bruxelles, Faculté des Sciences, Avenue F. Roosevelt, 50, B-1050 Bruxelles (BE). GODFROID, Edmond [BE/BE]; Université Libre de Bruxelles, Faculté des Sciences, Avenue F. Roosevelt, 50, B-1050 Bruxelles (BE).</p> <p>(74) Agent: TYRRELL, William, Arthur, Russell; SmithKline Beecham, Two New Horizons Court, Brentford, Middlesex TW8 9EP (GB).</p>		<p>(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p><b>Published</b> Without international search report and to be republished upon receipt of that report.</p>
<p>(54) Title: VACCINE</p> <p>(57) Abstract</p> <p>This invention relates to a general method for detecting pathogenic strains of bacteria which harbour a type III secretion system. More particularly, this invention relates to the methods as applied to the pathogen <i>Bordetella pertussis</i>. Furthermore, the invention relates to newly identified polynucleotides within these regions, virulent polypeptides encoded by them and to the use of such polynucleotides and polypeptides, and to their production. More particularly the polynucleotides and polypeptides of the present invention relate to the virulent effector proteins associated with the type III secretion system of <i>Bordetella pertussis</i>, which are particularly suitable for vaccine purposes.</p>		